

## **REMARKS**

By the *Office Action* of 28 December 2004, Claims 4-39 are pending in the Application, and Claims 4-19 and 21-39 are rejected and Claim 20 is objected to. By the present *Response and Amendment*, Applicant amends Claims 5, 18, 20, 25, and 27, whereby Claims 5, 20, and 27 have been rewritten as independent claims, addresses objection to the drawings, and presents several distinguishing features between the Claims and the cited references, and in so doing, believes the rejection of the Claims in view of the cited art is overcome.

### **1. Drawings**

The drawings are objected to under 37 C.F.R. § 1.84 for containing shading in Figures 1A-3. On August 24, 2004, Applicant submitted a *Petition for Color Drawings* under 37 C.F.R. § 1.84(a)(2) for Figures 1A, 1B, 2, and 3 of the present Application. Upon receiving the objection to the above-mentioned drawings submitted with the original patent application, Applicant contacted the United States Patent Office to determine the status of the *Petition for Color Drawings*. Applicant was informed that although a submission had been recorded, the Patent Office could not locate the submitted *Petition for Color Drawings*. Accordingly, on 3 March 2005, Applicant resubmitted the *Petition for Color Drawings* under 37 C.F.R. § 1.84(a)(2) with the United States Patent Office and has waited to see whether the Patent Office would act on the petition prior to the due date of this *Response and Amendment*. On June 23, 2005, Applicant was informed that Examiner Kaufman of the USPTO intends to grant the petition. Accordingly, Applicant respectfully submits that the objection to the drawings has been overcome by the acceptance of the *Petition for Color Drawings* under 37 C.F.R. § 1.84(a)(2).

### **2. Claims**

Claims 4-12, 15-19, 21-34, and 37-39 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,058,518 to Card et al. Applicant respectfully traverses the rejection, because, as described below, Card et al. does not anticipate, teach or suggest the present invention.

Applicant's invention is directed towards the cumbersome and complicated tasks currently existing in carpet design. Prior to the present invention, the six creels associated with

each needle of the tufting machine are generally loaded with the same six colors to ensure that the tufting machine does not stop due to a shortage of yarn. Each needle of the tufting machine tufts a small portion of the resulting carpet and, therefore, the colors incorporated within a carpet design are limited to the colors loaded on each needle of the tufting machine. More particularly, the complexity of determining what colors to associate with each needle of the tufting machine for a particular design has resulted in the creation of simple and uninteresting designs for carpet. The designers of carpets are strictly limited in their design and color choices by the restraints of the tufting machines. More elaborate carpet designs require complicated and time-consuming calculations to determine which colors to load on each of the creels of the tufting machine. Accordingly, the current practice of carpet design involves the carpet designer creating simple carpet designs for a particular tufting machine having certain colors loaded thereon, instead of determining whether a certain more elaborate carpet design created by the craftsman can be implemented on a particular machine.

Further, the loading of the tufting machine with yarn colors can be a complicated process, particularly for a more extravagant carpet design. Stopping the tufting machine during carpet creation is an expensive and time-consuming process. Accordingly, the current practice of loading the tufting machine with colored yarn involves loading the same colors of yarn for each needle of the tufting machine, so that the tufting machine does not run out of a particular color over any portion of the carpet. Also, the yarn cones loaded on the tufting machine are generally of the same size, because it is not easy to determine how much color will be needed at each needle of the tufting machine. If the tufting machine runs out of a particular color prematurely, the tufting machine must be stopped so that the color may be added, which introduces yarn from a different cone. Such a result is undesirable because it requires combining two strands of yarn, instead of relying on a stronger single strand of yarn.

The Applicant's invention provides greater flexibility to the carpet designer, allowing for more artistic creations of carpet. The present invention accommodates the skills of the carpet designer by validating whether a particular design can be implemented on a designated tufting machine. If the carpet design is valid for the tufting machine, the present invention also provides a template or report that designates the colors needed to implement the design, the number of yarn cones necessary, the amount of yarn required to create carpet in the validated design, and loading instructions designating which colors of yarn to load with each needle of the tufting

machine. Accordingly, the present invention frees the carpet designer from the limitations of the tufting machine and assists in the creation of more intricate and complicated designs by providing instructions on how to properly load the tufting machine with the appropriate amount of colored yarn in order to create the validated carpet design.

Card et al. discloses a pattern design process that first receives operational characteristics of a tufting machine (including the gauge of the tufting machine, the desired number of stitches per inch, the stitch delay between the front and rear needles of the needle bars, and the yarn color thread-up arrangement) and then uses the received operational characteristics to display a standard graphics pattern. (See Col 8, Ins. 63-68; Col 9, Ins. 1-59; and Figs. 4 and 7). The display of the standard graphics pattern is limited to the operational characteristics of the tufting machine and, therefore, the displayed standard graphics pattern *must* be valid for the particular tufting machine. Once the standard graphics pattern has been displayed, a designer may enhance the pattern by determining which tufts will be hidden or buried in the face of the carpet. Accordingly, the designer is forced to come up with a design utilizing pre-established yarns, which have already been designated for use with a particular tufting machine. Broadly described, the carpet designer is limited by the characteristics of the tufting machine during design creation. More particularly, the carpet designer is restricted to use the colors already arranged on the tufting machine. The resulting carpet design must fall within the limitations of the tufting machine, as the pattern creation process of Card et al. does not permit the carpet designer to choose colors or use a design that does not correspond to the characteristics of the tufting machine.

With respect to Claims 4-8, Card et al. does not disclose a method of validating a pattern for a tufting machine. More specifically, the cited reference does not disclose a determination whether a pattern may be implemented on a tufting machine, based on operational characteristics. While Card et al. discloses a pattern design process that may generate a custom pattern design, the cited reference does not disclose a validation process of the created pattern. In fact, no validation process of the pattern is necessary under Card et al., because the standard graphics pattern is generated from operational characteristics of the tufting machine and, further, any enhancements by the designer are also limited to these operational characteristics. For example, if the tufting machine includes a first needle associated with yarn colors blue, red, and white, then the editable standard graphics pattern that is displayed will only have the colors of

blue, red, and white associated with the portion of the pattern related to the tufting area of the first needle. When a designer attempts to enhance that portion of the standard graphics pattern, the designer may only choose between the colors blue, red, and white (i.e., determine which tufts of color will be hidden or buried in the face of the carpet). The result is a customized pattern that *must* be valid for the particular tufting machine. Accordingly, Card et al. has no need to validate the resulting pattern (e.g., determine whether the pattern may be implemented by the tufting machine).

Conversely, Applicant's invention first receives a pattern and then determines whether the received pattern may be implemented on a tufting machine, based on the operational characteristics of the tufting machine. Unlike the pattern disclosed in Card et al., the pattern received in the present invention need not be restricted by the operational characteristics of a particular tufting machine and, consequently, the pattern may be valid for one tufting machine, but not valid for another tufting machine with different operational characteristics. Therefore, Applicant respectfully submits that Card et al. does not disclose a determination of whether a pattern may be implemented on a tufting machine, based on operational characteristics as recited in Claims 4-8.

With respect to Claims 9-12 and 15-17, Card et al. does not disclose a method of designating how to load a tufting machine to implement a pattern. After careful review of the cited reference (particularly Col 8, lns 63-68 and Col 9, lns 1-9), Applicant does not find disclosed a designation of how to load a tufting machine based on a provided pattern. Card et al. does disclose a "CALL LOAD" which actually loads the digital pattern from a floppy disk to a computer's main memory associated with a tufting machine, but such a load obviously refers to loading digital data into a computer memory, not physically loading the tufting machine with yarn colors specific to the received pattern. To the contrary, Card et al. teaches away from designating how to load a tufting machine to implement a pattern, because, as described above, the operational characteristics of the tufting machine, including the yarn thread-up arrangement, have already been designated before generating the pattern. Under the cited reference, there is no need to designate how to load the tufting machine from the pattern, because the pattern is determined by how the tufting machine has been or will be loaded. Therefore, Applicant respectfully submits that Card et al. does not disclose a designation of how to load a tufting machine to implement a pattern as recited in Claims 9-12 and 15-17.

With respect to Claims 18-19 and 21-25, Card et al. does not disclose a system for validating a pattern for a tufting machine. More specifically, the cited reference does not disclose a system that comprises a control unit adapted to determine whether a pattern may be implemented on a tufting machine, based on operational characteristics. For the same reasons recited above with reference to Claims 4-8, Applicant respectfully submits that Card et al. does not disclose a system for validating a pattern for a tufting machine having a control unit that determines whether a pattern may be implemented on a tufting machine, based on operational characteristics as recited in Claims 18-19 and 21-25, because the system disclosed in the cited reference need not validate the received pattern (e.g., determine whether the pattern may be implemented by the tufting machine).

For the same reasons recited above with reference to Claims 4-8, Applicant respectfully submits that Card et al. does not disclose a computer-readable medium comprising computer-executable instructions for validating a pattern for a tufting machine including computer-executable instructions for determining whether a pattern may be implemented on a tufting machine, based on operational characteristics as recited in Claims 26-30, because the computer-readable medium disclosed in the cited reference need not validate the received pattern (e.g., determine whether the pattern may be implemented by the tufting machine).

For the same reasons recited above with reference to Claims 9-12 and 15-17, Applicant respectfully submits that Card et al. does not disclose a computer-readable medium comprising computer-executable instructions for designating how to load a tufting machine to implement a pattern as recited in Claims 31-34 and 37-39, because, under the cited reference, there is no need to designate how to load the tufting machine from the pattern, because the pattern is determined by how the tufting machine has already been or will be loaded.

Claims 14 and 36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Card et al. in view of U.S. Patent No. 3,875,883 to Eberwein et al. Applicant respectfully traverses the rejection, because, as described below, Card et al. in view of Eberwein et al. does not render the present invention obvious. Claims 14 and 36 depend upon independent claims, which for the reasons stated above, are patentable over the cited references; therefore, it is submitted that Claims 14 and 36 are also patentable over the cited references. Applicant respectfully requests that the rejection of Claims 14 and 36 be withdrawn.

Claims 13 and 25 are rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Card et al. Applicant respectfully traverses the rejection, because, as described below, Claims 13 and 25 are not anticipated by Card et al. and are not obvious.

As stated by the Examiner, Card et al. does not specifically disclose determining the number of yarn cones necessary to implement a pattern on the tufting machine. Accordingly, a rejection under 35 U.S.C. § 102(b) is improper, because the cited reference does not disclose each and every element of the claimed invention.

Applicant respectfully submits that a determination of the number of yarn cones necessary to implement a pattern on the tufting machine is not obvious and, consequently, is one of the objects of the present invention. As stated in the background of the present application:

The process of mounting yarn cones on the yarn holder of the creel (also referred to as “creeling”) typically requires the tufting machine operator to load the six colors of the pattern onto the six creels associated with each needle of the tufting machine. This is true even though a particular needle of the tufting machine may not require all six colors for the section or column of carpet that the needle tufts. Such a process of mounting yarn cones may result in significant amounts of yarn waste, because not all of the yarn colors will be used by each needle of the tufting machine. Additionally, such a process of mounting yarn cones may result in yarn damage, because unnecessary handling of the yarn may cause the yarn to fray or unravel. Further, the “creeling” process indirectly limits pattern design. Even if a carpet designer created a pattern with more than six colors that could be implemented on a tufting machine, the tufting machine operator would not necessarily know how to load the appropriate colors onto the creels of each needle of the tufting machine. Manually determining which colors to associate with each needle of the tufting machine based on a given pattern is potentially more difficult than the actual designing of the pattern.

(See Page 2, lines 8-21). By determining the number of yarn cones necessary to implement a pattern on the tufting machine, the present invention reduces yarn waste and yarn damage, because only the required amount of yarn color is loaded onto the tufting machine.

MPEP § 2144.03 provides that there are rare circumstances for which an Examiner may take official notice without documentary evidence to support such a conclusion (e.g., to support a rejection under 35 U.S.C. § 103). “Official notice unsupported by documentary evidence should only be taken by the [E]xaminer where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-

known.” More specifically, “[i]t would not be appropriate for the [E]xaminer to take official notice of facts without citing a prior art reference where the facts asserted to be well-known are not capable of instant and unquestionable demonstration as being well-known.” (See MPEP § 2144.03). For the foregoing reasons, Applicant respectfully submits that Claims 13 and 25 are not anticipated or rendered obvious by Card et al.

Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Examiner provided a reason for allowance, stating that “claim 20 specifically requires that the control unit determines whether the number of colors is greater than a predetermined number of colors associated with at least one needle to the tufting machine.” Applicant amends Claim 20 to include all limitations of the base claim and any intervening claims. Additionally, Applicant also amends Claims 5 and 27 to include all limitations of the corresponding base claim and any intervening claims. Similar to Claim 20, Claims 5 and 27 recite the same limitation of determining whether the number of colors is greater than a predetermined number of colors associated with at least one needle of the tufting machine. Accordingly, Applicant respectfully submits that Claims 5, 20, and 27, as amended, claim allowable subject matter over the cited references.

### **3. Amendments**

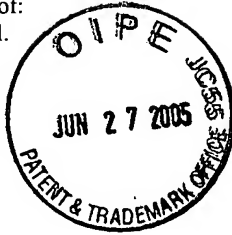
Claim 5 is amended to incorporate the same limitations of the corresponding base claim, so that Claim 5 is now in independent format comprising allowable subject matter over the cited references.

Claim 18 is amended to add the conjunction “and” between listed elements.

Claim 20 is amended to incorporate the same limitations of the corresponding base claim, so that Claim 20 is now in independent format comprising allowable subject matter over the cited references.

Claim 25 is amended to correct a typographical error.

Claim 27 is amended to incorporate the same limitations of the corresponding base claim, so that Claim 27 is now in independent format comprising allowable subject matter over the cited references



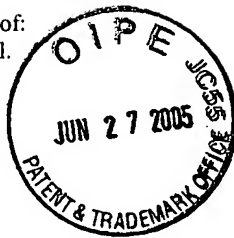
**4. Fees**

This *Response and Amendment* is being filed within six months of the *Office Action*, and thus a three month extension of time fee is included, with petition, in the amount of \$1,020.00.

This *Response and Amendment* increases the number of independent claims by three (3) and, therefore, a payment in the amount of \$600.00 is included to cover the fee for these additional independent claims.

Should any further fees be due, authorization to charge deposit account No. 20-1507 is hereby expressly given.





CONCLUSION

By the present *Response and Amendment*, the Application has been placed in full condition for allowance. Accordingly, Applicant respectfully requests early and favorable action. Should the Examiner have any further questions or reservations, the Examiner is invited to telephone the undersigned Attorney at 404-885-3538.

Respectfully submitted,

James A. Proffitt  
Registration No. 54,837

TROUTMAN SANDERS LLP  
Bank of America Plaza  
600 Peachtree Street, N.E.  
Suite 5200  
Atlanta, Georgia 30308-2216  
(404) 885-3538